MOLECULAR BIOLOGY

NIH Gears Up for Chemical Genomics

The National Institutes of Health (NIH) announced last week that it is creating an industrial-scale high-tech screening center. It will be the hub of an academic consortium that will create a library of molecules to probe cells and search for new drugs. But one difficult issue—how to divvy up intellectual property rights—is not yet resolved.

The planned molecular library is part of NIH Director Elias Zerhouni's road map, a set of initiatives announced last September whose $2.2 billion, 6-year budget is funded by contributions from NIH's 27 institutes and centers. To build the library, researchers will screen at least 500,000 small molecules for biological activity (Science, 10 October 2003, p. 218). The chief aim is to produce basic tools for exploring cell biology, then let companies cover the "huge" distance to drugs, says Christopher Austin of the National Human Genome Research Institute (NHGRI).

Speed demon. This Kalypsys machine, which can screen more than 1 million small molecules per day for activity in different cell and protein assays, will sit in NIH's new Chemical Genomics Center.

The NIH Chemical Genomics Center, as it is called, will be part of NHGRI's intramural program. Its first move was to sign a $30 million, 4-year contract with Kalypsys Inc. of San Diego, California, for a room-sized piece of molecular screening equipment developed by the Novartis Research Foundation's Genomics Institute. Packed with robotics, it dispenses 1536 tiny samples of cells or proteins onto a plate, mixes in a small molecule, and runs the plate through a scanner to look for a response in that cell or protein type. The system can test more than 1 million compounds a day through various assays.

At present, the only other purchaser of a Kalypsys scanner of this type is Merck & Co. of Whitehouse Station, New Jersey. And Austin, who was recruited to NHGRI from Merck in 2002 to be the center's director, has already made "a critical hire" to head biomolecular screening: another Merck staffer, James Inglese. The center will set up in rented space by fall and soon begin high-throughput screening with a staff of 50.

Also this fall, NIH expects to launch PubChem, a new database—like GenBank, the central gene repository—to hold data on the molecules. And in 2005, NIH plans to fund up to 10 academic centers to develop new assays and perform more high-throughput screening, Austin says.

NIH is thinking about requiring that all members of the consortium deposit data in PubChem immediately and waive some patent rights so that new molecules and assays will be freely available to the community. Researchers could ask to patent a find in special cases, Austin notes. But at a recent meeting, some university tech-transfer officers strongly objected to restrictions on patenting, suggesting that researchers should be allowed to obtain property rights but not enforce them for academic use. Some scientists see both sides: "I'm all for open exchange," says biochemist Laura Kiessling of the University of Wisconsin, Madison, but for certain discoveries, a patent could be "almost better … so somebody will manufacture" the product so more researchers can work with it.

NIH expects to announce a patent policy before an August deadline for applying to become part of its chemical genomics network.

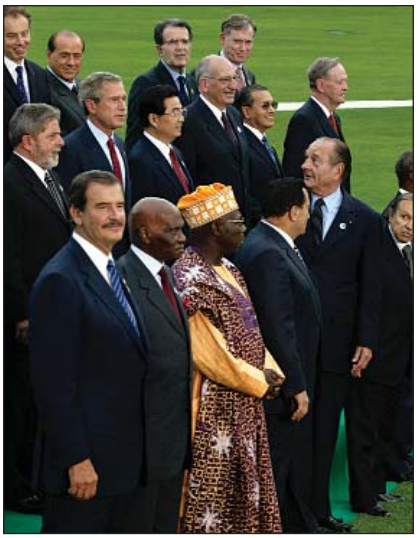
—JOCELYN KAISER

AIDS VACCINES

G8 Leaders Endorse Global Effort

A plan to coordinate global HIV vaccine research got a moral boost last week when the leaders of the world's richest countries endorsed the Global HIV Vaccine Enterprise at the G8 summit in Sea Island, Georgia. But only the United States pledged any money, and the amount is small—just $15 million.

The proposal was first outlined a year ago in Science (27 June 2003, p. 2036) and is being championed by the Bill & Melinda Gates Foundation and the U.S. National Institutes of Health (NIH). Their goal is to issue a "strategic plan"—the final version is expected this fall—that will, for example, suggest research priorities and set standards for clinical trials so that research conducted in one country is recognized worldwide. "We want to try to get nongovernmental organizations, individual donors, scientists, and countries to enter the field in a way that's synergistic … so we don't have people going in different directions," says Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases in Bethesda, Maryland, and one of the authors of the proposal. The proposal calls for creating a network of vaccine development centers that will focus on different vaccine strategies; at a Georgia press conference, Fauci said NIH will spend $15 million next year to create one in the United States.



Buy in. World leaders lend support to AIDS vaccine strategy.

Not everyone is convinced that the new plan is the best way to overcome the obstacles to vaccine development. Says Jaap Goudsmit, one of the founders of the International AIDS Vaccine Initiative and now at Crucell, a Dutch biotech company, "I'm not very enthusiastic about ruling by committee." And, he cautions, "it definitely, emphatically is a question of a lot more money." He thinks a better approach would be to give a few "champions" in the AIDS field, say, a billion dollars each. He notes that "the Gates foundation has the money to do that, right now."

—GRETCHEN VOGEL

With reporting by Martin Enserink.

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